REMARKS

Favorable reconsideration and allowance of this application are requested.

The typographical error helpfully noted by the Examiner has been corrected on page 7 of the specification.

By way of the amendment instructions above, independent claim 1 has been revised so it is now clear that the monopropellant mixture consists of three components – namely, hydrogen peroxide, ethanol and water. Moreover, the claim requires that the water be present in an amount sufficient to render the monopropellant nondetonable prior to ignition and to maintain a flame temperature when ignited of about 2000^0K or less. Support for such expressions may be found in the specification at page 7, lines 18-20 and at page 8, line 28 of the originally filed specification.

Clarifying revisions have also been proffered for claims 19 and 20 to thereby remove ambiguity and/or inconsistency with the hydrogen peroxide being present as a 70% concentration in water.

Claims 20 and 21 are new and are based on the disclosure appearing at page 6, lines 19-25.

Thus, claims 15-21 remain pending in this application for which favorable reconsideration and allowance are solicited.

I. Response to 35 USC §112 Issues

Claims 15-20 attracted a rejection as allegedly failing to comply with the enablement requirement of 35 USC §112, first paragraph. Applicants emphatically

submit that the claims pending herein are based on an entirely statutorily enabling specification.

The Examiner's basis for asserting this rejection appears to be that, since the claims at issue recite a mixture of hydrogen peroxide and ethanol, the specification is allegedly non-enabling as to how such a mixture is obtained since "...these ingredients when combined are immediately combustible." Such a statement is categorically not true.

Applicants note that those skilled in this art would most certainly recognize that hydrogen peroxide and ethanol do NOT, as the Examiner seems to believe, combust immediately upon mixing. Indeed, applicants have formed numerous mixtures and have stored them without any spontaneous combustion as alleged by the Examiner.[1]

The Examiner apparently premises her allegation on the fact that the Mueller '393 patent discloses introducing hydrogen peroxide and ethanol to a "combustion chamber" where they combust. While Mueller '393 does indeed disclose such an occurrence, those of even ordinary skill would clearly recognize that, within the combustion chamber, there necessarily is a ***source of combustion*** – i.e., a glow plug, catalyst bed, or the like. Hence, the naked statement in Mueller '393 that hydrogen peroxide and ethanol combust in a "combustion chamber" cannot of course override the technical fact that hydrogen peroxide and ethanol do not spontaneously combust upon mere mixing.[2]

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[1] An appropriate Declaration under Rule 312 could be submitted if the Examiner desires. However, in view of the art recognition that hydrogen peroxide and ethanol do not spontaneously combust – a fact that the Examiner must take Official Notice of – the submission of such a Declaration would seem to be superfluous and unnecessary.

[2] Of course, if the Examiner possesses contrary facts within her personal knowledge, she is then asked to supply an appropriate Declaration under Rule 104(d)(2).

Withdrawal of the rejection advanced under 35 USC § 112, first paragraph is therefore in order.

The rejection of claim 19 under 35 USC §112, second paragraph is believed to have been rendered moot by the amendments proffered above.

II. Response to Art-Based Rejections

Prior claim 15 attracted a rejection under 35 USC §102(b) as allegedly being anticipated by either USP 3,072,020 to Barnes and USP 3,036,940 to Fletcher. As admitted by the Examiner later in the Official Action (see paragraph 13 on page 5 of the Action), neither Barnes '020 nor Fletcher '940 "...disclose the use of additional water" in a monopropellant composition of hydrogen peroxide and ethanol. Hence, the amendments made to claim 15 above wherein water is specifically recited as a necessary component present in the mixture in an amount sufficient to render the mixture nondetonable and to achieve a flame temperature of about 2000^0K or less when ignited, renders the rejection advanced under 35 USC §102(b) moot.

The only issues thereby remaining to be resolved in this application are the Examiner assertion that the claimed subject matter is "obvious", and hence unpatentable, under 35 USC §103(a). Specifically, the asserts that the remaining claims are unpatentable over Barnes '020 and Fletcher '940 in view of Mahan (USP 3,020,708) and Mueller (USP 3,700,393). Neither Mahan '708 nor Mueller '393 however, cure the deficiencies of Barns '020 and Fletcher '940.

With respect to Barnes '020, applicants note that the disclosure therein is related to ***bipropellants***. While passing reference is made to hydrogen peroxide per se being a monopropellant, the suggestion in Barnes '020 is that hydrogen peroxide and ethyl-alcohol-water is "well known ***bipropellant***." (See column 1, lines 40-47.)

As note previously, neither Barns '020 nor Fletcher '940 disclose or suggest ***mono***propellants consisting of hydrogen peroxide, ethanol and water having the functional characteristics as recited in the applicant's pending claims herein.

Mahan '708 and/or Mueller '393 fail to cure the deficiencies of Barnes '020 and Fletcher '940. Specifically, applicants note that Mahan '708 and discloses ***bipropellant*** – not monopropellant – compositions. Hence, while it is true that Mahan '708 discloses that water may be present with ethyl alcohol as a fuel component in a bipropellant composition in which hydrogen peroxide is present as an oxidizer, the suggestion to those of ordinary skill in this art is that such components must necessarily be employed in ***bipropellant compositions*** – i.e., wherein the oxidizer and fuel components are maintained separately until combustion. As such, an ordinarily skilled person would not leap to the conclusion as the Examiner has apparently done and conclude that a premixed liquid monopropellant as defined in the present application would or could be "obvious" in view of Mahan '708 or the other secondary references of record.

The Mueller '393 reference is of course the same reference the Examiner applied to reject the claims during previous prosecution. On appeal of such rejection, the Board rightly observed that:

> "[T]he Examiner has failed to advance any factual basis to support the conclusion that it would have been obvious to one of ordinary skill in the art to modify the hydrogen peroxide/ethyl alcohol propellant of Mueller in the manner proposed. The mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification....Mueller contains no such suggestion." (Board decision of July 11, 2003 at page 7, lines 5-13, citation omitted.)

Applicants submit that the Examiner has still failed to provide any factual basis why one of ordinary skill in this art would take the bipropellant of Mueller '393 and make

it a monopropellant. Indeed, the entire emphasis in Mueller '393 is that the therein disclosed propellants are ***bi*** – not mono – propellants would direct one of ordinary skill away from the presently claimed invention. As such, Mueller still contains no suggestion of the modification proposed by the Examiner.

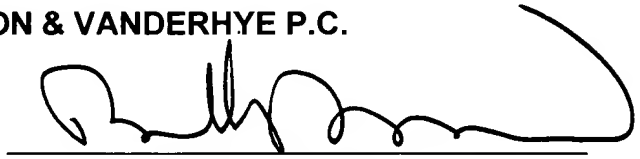
Accordingly, the record establishes that the presently claimed invention is **un**obvious over the applied references of record. As such, withdrawal of all art-based rejections is solicited.

Conclusion

Every effort has been made to advance prosecution of this application. Therefore, in view of the amendments and remarks presented herewith, it is suggested that this application is in condition for prompt allowance and Official Notice to that effect is solicited.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: 

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